



**Respiratory Surveillance: August 28 – September 3, 2022
Updated September 8, 2022**

COVID-19 Key Findings

Statewide Updates	<p>Additional COVID-19 information can be found here: Respiratory Virus Surveillance Dashboard</p> <p>The total number of hospital admissions increased in the Public Health Epidemiologist (PHE) network for COVID-19. ICU admissions in the Public Health Epidemiologist (PHE) network for COVID-19 increased.</p> <p>No new MIS-C cases were reported this week.</p>
Regional Updates	<p>Among neighboring states (SC, GA, VA, TN), all states saw a decrease in COVID-19 activity based on total case numbers and rate of new cases per 100,000 population over the last 7 days (08/31/2022-09/06/2022). CDC COVID Data Tracker: Daily and Total Trends</p>
National Updates	<p>The national 30-day percent positive was 14.32 % on 09/03/22. Vaccination and Testing HHS Protect Public Data Hub (arcgis.com)</p> <p>The nationwide rate of new cases per 100,000 population decreased over the past 7 days (08/31/2022-09/06/2022). CDC COVID Data Tracker: Daily and Total Trends</p>
International Updates	<p>Worldwide, the Western Pacific region has accounted for a majority of COVID-19 infections since the week of July 25, 2022. For more country specific details please visit: https://covid19.who.int/</p>

Influenza Key Findings

Influenza information will not be included in this report for the remainder of the summer. NC DPH will continue to review influenza information weekly. ILI data and PHE influenza testing data will continue to be updated weekly here: [Respiratory Virus Surveillance Dashboard](#).

Introduction

The North Carolina Department of Health and Human Services (NCDHHS) uses multiple surveillance systems to monitor respiratory diseases across the state. These surveillance systems include information related to outpatient visits, emergency department visits, laboratory data, as well as hospital data from epidemiologists at seven of the state's largest healthcare systems. Data sources used to gather the information presented here are described below.

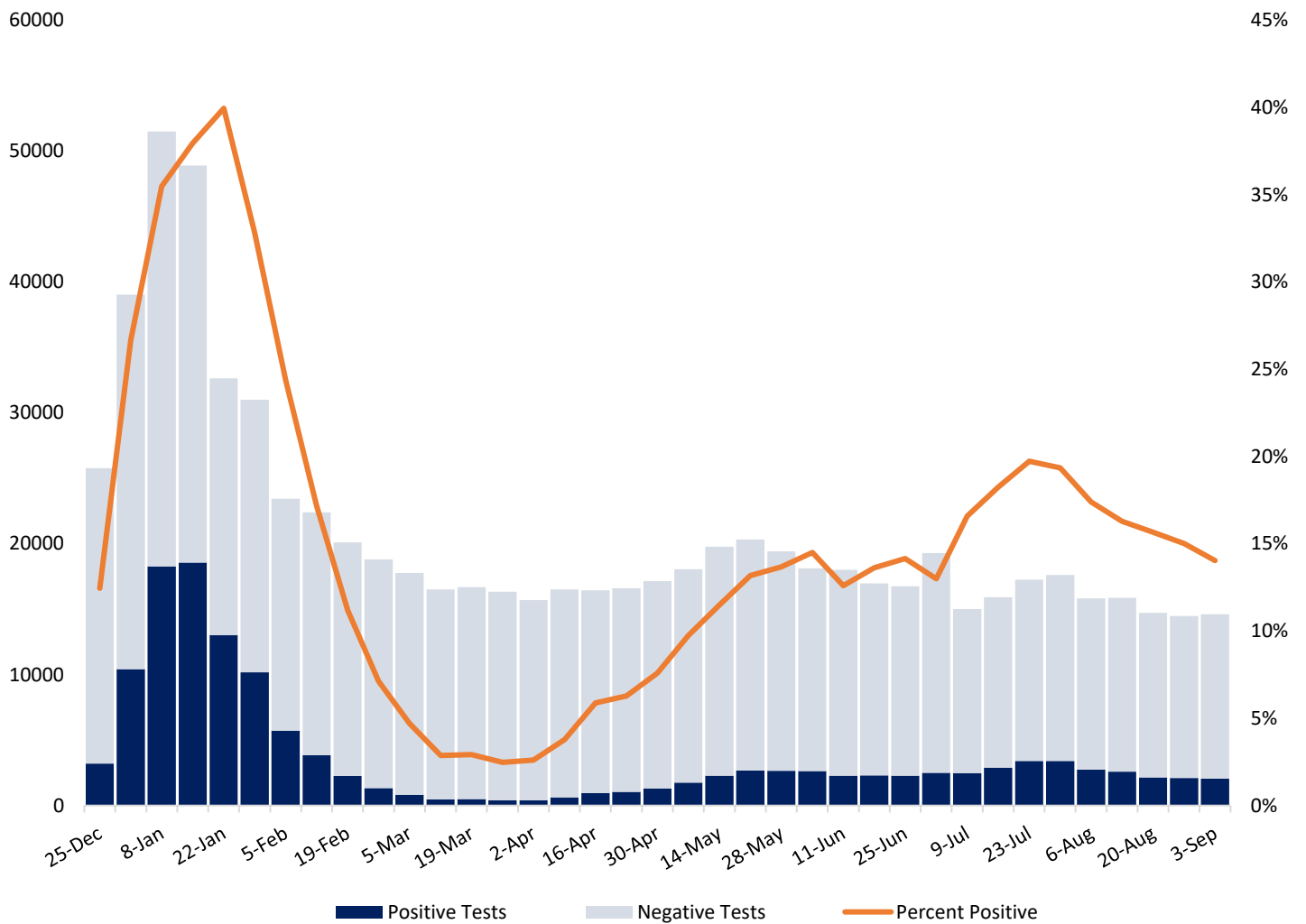
Public Health Epidemiologists Program

In 2003, NCDPH created a hospital-based Public Health Epidemiologist (PHE) program to strengthen coordination and communication between hospitals, health departments and the state. The PHE program covers approximately 38 percent of general/acute care beds and 40 percent of ED visits in the state. PHEs play a critical role in assuring routine and urgent communicable disease control, hospital reporting of communicable diseases, outbreak management and case finding during community wide outbreaks.

Hospitalization Vaccination Status

As part of North Carolina's hospital surveillance, hospitals provide information about COVID-19 related hospitalization and intensive care unit patients by vaccination status. Patients are asked their vaccination status at triage. Patients are counted as vaccinated if they provide proof of vaccination or if their vaccination status can be verified through North Carolina's Covid-19 Vaccination Management System (CVMS). Patients who are not vaccinated, partially vaccinated, cannot provide proof of vaccination, or whose vaccination status cannot be confirmed in CVMS are categorized as unvaccinated.

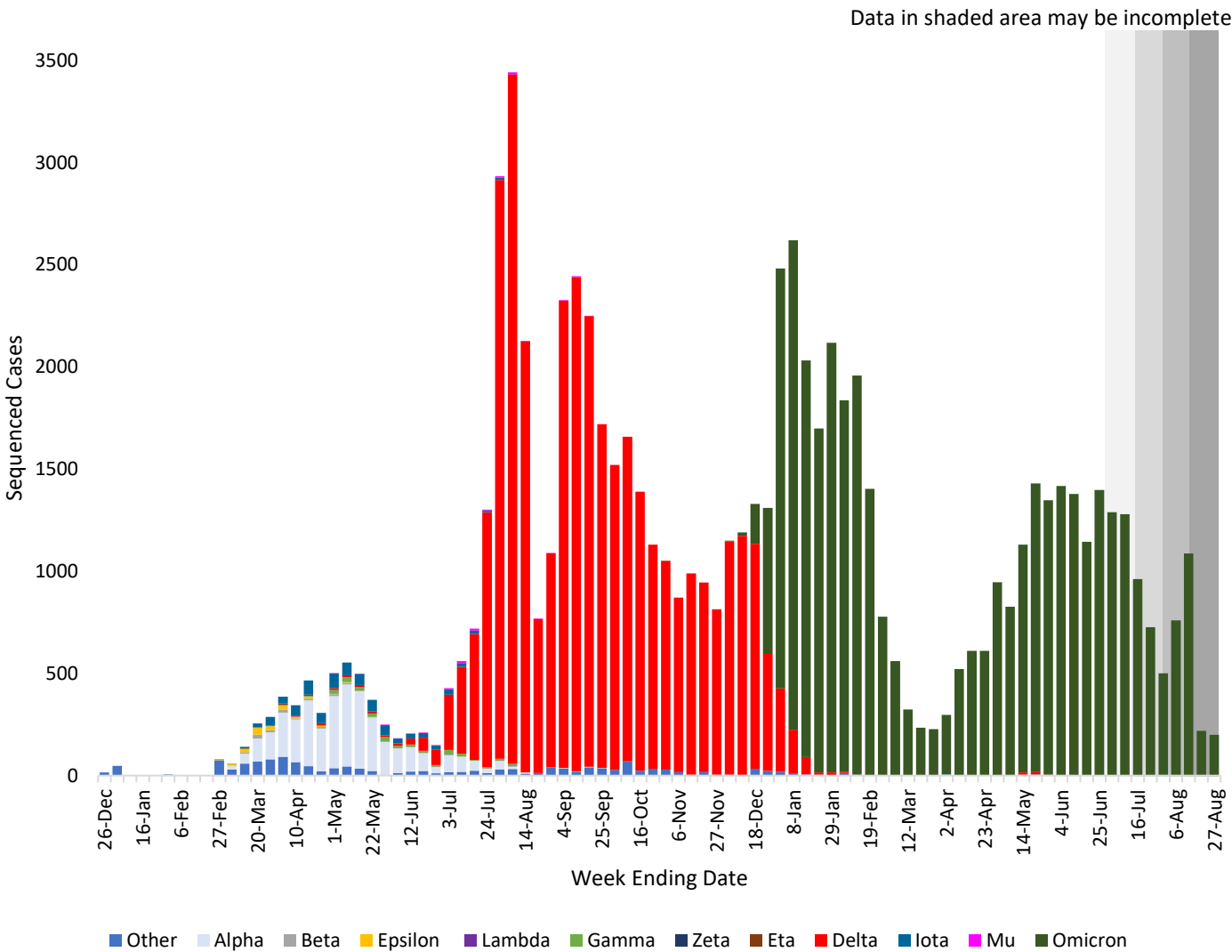
What percentage of people tested for the virus that causes COVID-19 at PHE facilities are positive?



In the week ending September 3, 2022 a total of **14,604** people were tested for the virus that causes COVID-19 at PHE facilities of which **2,050** were positive. The percentage of people who were tested and were positive helps us to understand how common the virus is in people who get tested for COVID-19.

The percentage of people tested who were positive for the virus that causes COVID-19 **DECREASED** the week ending September 3, 2022.

What COVID-19 variants are being detected in North Carolina?



Whole genome sequencing (WGS) allows tracking of genetic changes in the SARS-CoV-2 virus, the virus that causes COVID-19. These genetic changes occur over time and lead to the emergence of new variants that may have different characteristics. [CDC classifies some variants as variants of concern \(VOC\) or variants of interest \(VOI\) based on suspected or shown differences](#) in how that variant behaves, such as being more transmissible, more able to evade the immune system, or causing more severe disease.

This graph shows the variants identified each week among specimens sequenced by laboratories that report WGS results to NC DHHS. The number of sequenced specimens shown is a small proportion of the total number of COVID-19 cases.

The **Omicron Variant** has been the most commonly circulating variant since the week ending December 25, 2021.

The **Omicron Variant** was first detected in North Carolina the week ending December 4, 2021. For the week ending August 27, 2022, the most recent data available, Omicron represented 100% of 199 sequenced specimens.

Post-vaccination Cases

COVID-19 vaccines are highly effective at preventing severe illness, hospitalization, and death from COVID-19, including from the Omicron variant and subvariants. Even when a vaccine is highly effective, post-vaccination cases are expected. Some people who are fully vaccinated or vaccinated with a booster or additional dose after completing a primary series will still get COVID-19 if they are exposed to the virus. When infections do occur after vaccination, they are generally less severe than infections in people who are unvaccinated, and vaccinated people are much less likely to be hospitalized or die.

What is a post-vaccination case?

A case is considered a post-vaccination case if an individual tested positive at least 14 days after completing an FDA authorized SARS-CoV-2 (COVID-19) vaccine series (two doses of an mRNA vaccine or one dose of the Janssen vaccine) and has not had a positive test result in the preceding 45 days. A case is considered a post-booster case if an individual tested positive at least 14 days after receiving an FDA authorized SARS-CoV-2 third dose if the primary series was an mRNA vaccine or second dose if the primary series was Janssen. People who are not fully vaccinated (e.g., only one dose of a two-dose series or less than 14 days from vaccination) are included in the unvaccinated category.

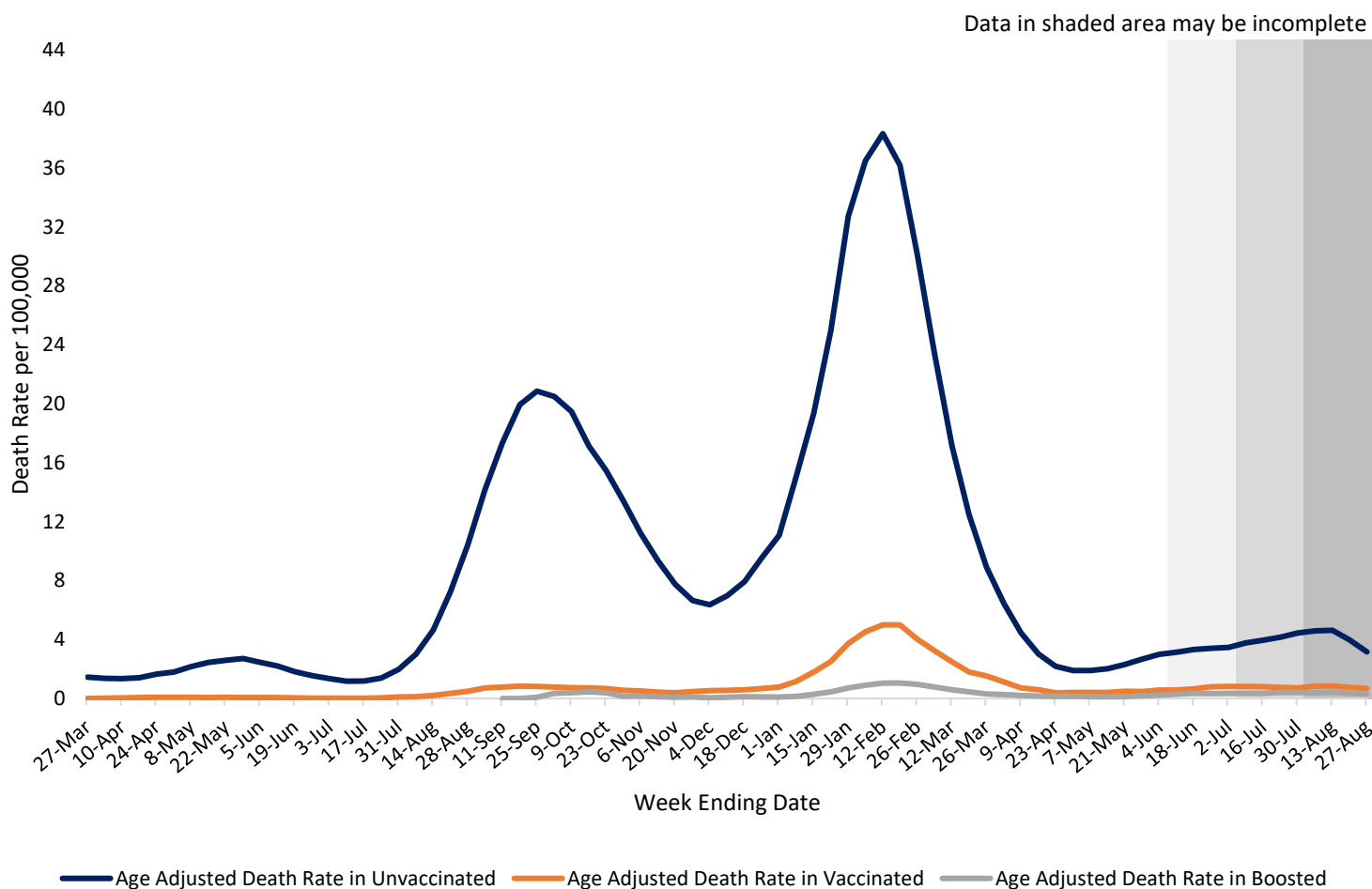
How are post-vaccination cases identified?

Every week, NCDHHS compares vaccination records in the North Carolina COVID-19 Vaccine Management System (CVMS) with records in the database of COVID-19 cases reported to NCDHHS. This matching is done based on a unique person identifier used to link each system. These data are then analyzed to determine which cases meet the definition of a post-vaccination case. These data do not include people who were vaccinated by the Department of Defense, Veterans' Administration, or Indian Health Service.

When viewing post-vaccination case data there are several important things to keep in mind

- Even with highly effective vaccines, the number of post-vaccination cases is expected to rise as virus transmission goes up and as more people are vaccinated.
- Although we continue to see [stable and highly effective protection](#) against hospitalizations and severe outcomes for people who are fully vaccinated, we have seen a decrease in vaccine effectiveness against infection with the Delta and Omicron variants.
- Recent trends in reported case rates by vaccination status and receipt of booster doses have become difficult to interpret due to a number of factors, including: higher prevalence of [previous infection](#) among the unvaccinated and un-boostered groups; difficulty in accounting for time since vaccination and waning protection; and potential biases related to differences in testing practices (e.g., at-home tests) and prevention behaviors. Therefore, attack rates and ratios by vaccination status are no longer being included in this weekly report. These factors are likely to impact differences in mortality rates by vaccination status but to a lesser degree.
- Age-adjustment takes into account differences in age distribution between people who are boosted, vaccinated, and unvaccinated.
- These data are preliminary and subject to change. Rates and ratios for previous weeks may change slightly as new data are received.
- Vaccination is the most effective way to prevent the spread of COVID-19 as well severe, hospitalization and death due to the virus.

What is the risk of dying of COVID-19 for people who are vaccinated versus unvaccinated?



A [mortality rate](#) is the number of deaths that occur in a certain time period in a certain group of people. In the graph above, the number of COVID-19 deaths in unvaccinated individuals is being compared to the number of COVID-19 deaths in vaccinated and boosted individuals in the same period. Using the mortality rate allows this comparison as the number of boosted, vaccinated, and unvaccinated individuals changes over time as more people are vaccinated and boosted.

For the four-week period ending August 27, 2022, the age-adjusted mortality rate among **unvaccinated** individuals was **3.16 cases per 100,000** unvaccinated population, the age-adjusted mortality rate among **vaccinated** individuals was **0.67 per 100,000** people who had completed the primary series, and the age-adjusted mortality rate among **boosted** individuals was **0.32 cases per 100,000** people who had received a booster

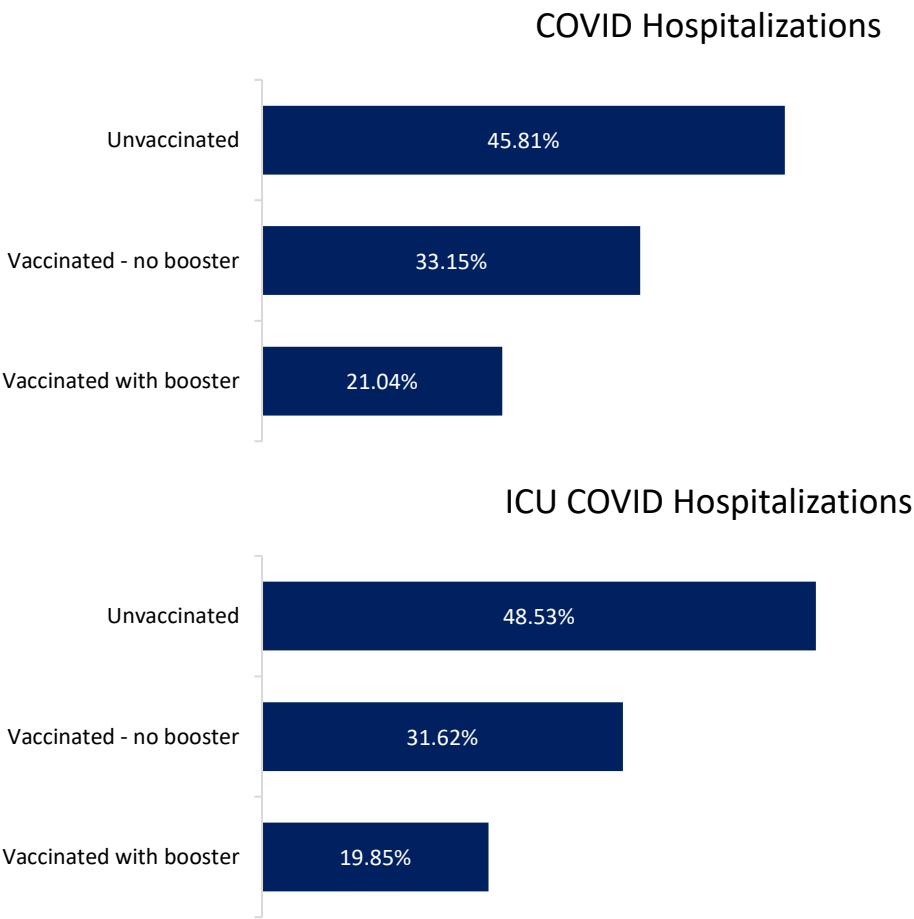
The age-adjusted mortality rate ratio compares the risk of dying between two groups. For the four-week period ending August 27, 2022, the age-adjusted mortality rate ratio for unvaccinated individuals compared to boosted individuals getting COVID-19 is 10.0. This means that **unvaccinated individuals were 10.0 times more likely to die of COVID-19 than people who had received a booster.**

What percent of people hospitalized or in the ICU with COVID-19 are vaccinated based on self-reported vaccination status?

Vaccination Status of Hospitalized Patients	
Daily Average COVID Hospitalizations	Daily Average ICU COVID Hospitalizations
1,074	136
(1,074 REPORTED VACCINATION STATUS)	(136 REPORTED VACCINATION STATUS)

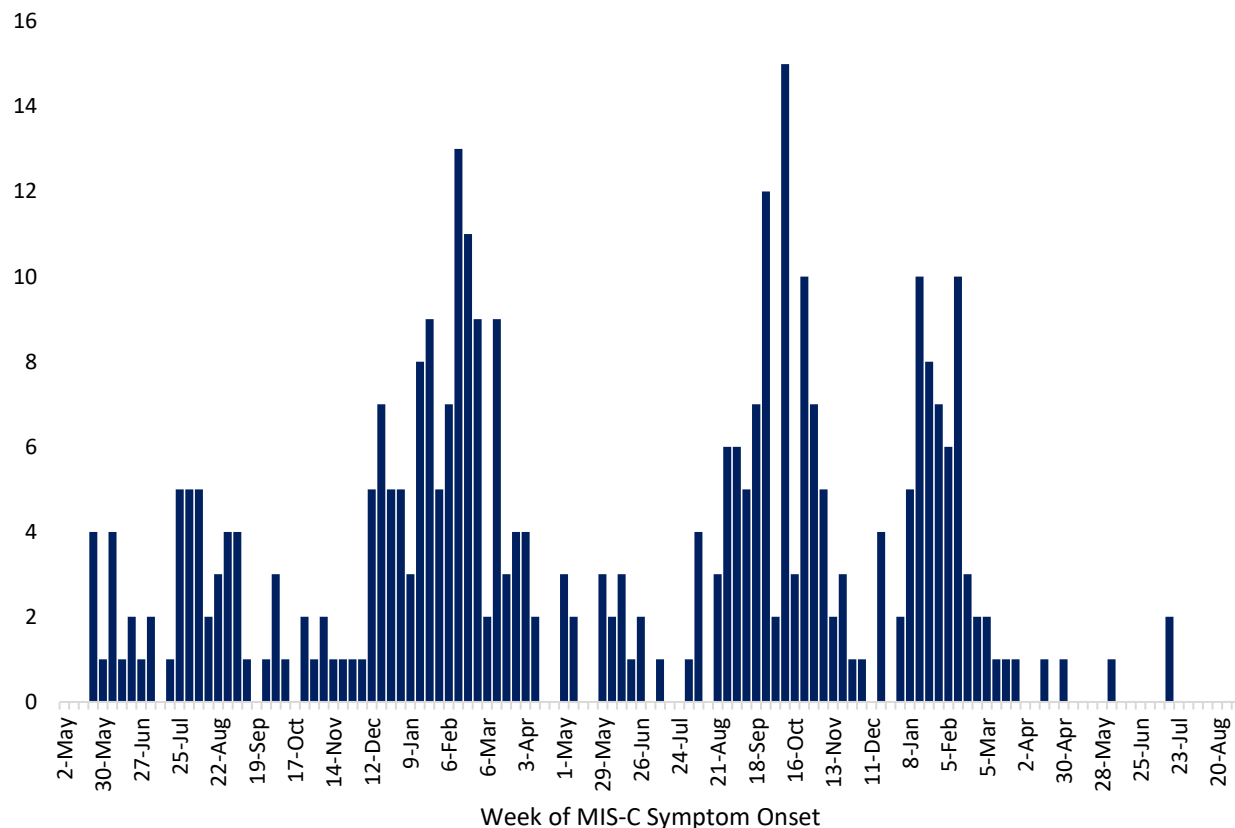
For the week ending September 3, 2022, the daily average COVID hospitalizations was 1,074 and the daily average COVID ICU hospitalizations was 136. Among COVID hospitalizations and COVID ICU hospitalizations 1,074 and 136 reported vaccination status respectively. Currently 114 out of 117 hospitals reporting metrics are also reporting patient vaccination status.

Patients are counted as vaccinated if they provide proof of vaccination or if their vaccination status can be verified through North Carolina’s Covid-19 Vaccination Management System (CVMS). Patients who are not vaccinated, partially vaccinated, cannot provide proof of vaccine or whose vaccination status cannot be confirmed in CVMS are categorized as unvaccinated.



How many cases of Multisystem Inflammatory Syndrome in Children (MIS-C) associated with COVID-19 have been reported in North Carolina?

Number of New Cases Reported Week Ending September 3, 2022	Total Reported Cases in NC
0	348



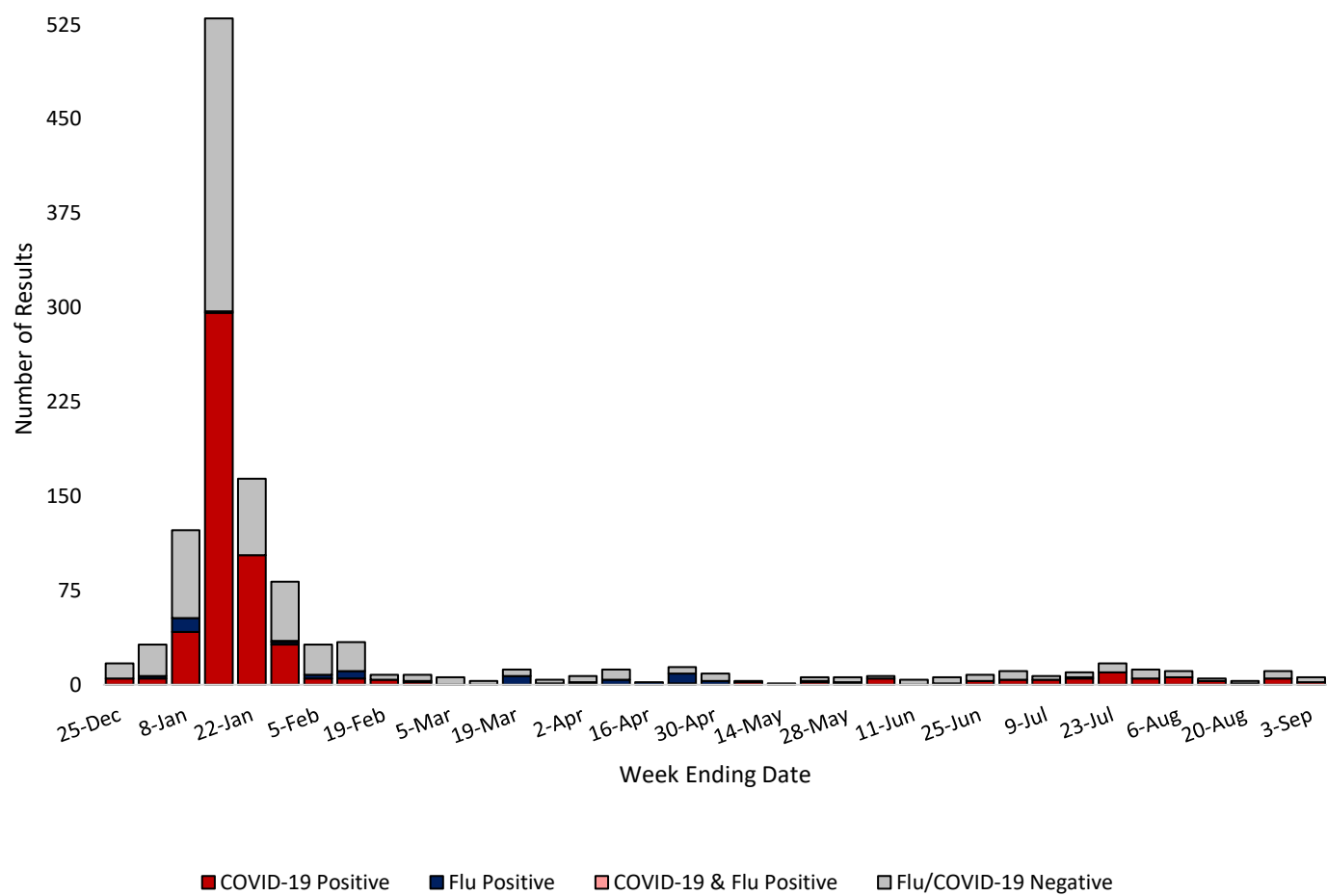
Multisystem inflammatory syndrome in children (MIS-C) is a rare health condition that has been identified in a small subset of children with current or recent COVID-19. MIS-C is similar to other serious inflammatory conditions such as [Kawasaki disease](#) and toxic shock syndrome. Children with MIS-C can have problems with their heart and other organs and need to receive medical attention.

NCDPH is looking for cases of this syndrome in three different ways:

1. Physicians directly report suspect cases to NCDPH
2. PHEs report suspect cases to NCDPH
3. NC DETECT does surveillance for children with compatible symptoms

The graph above shows the number of cases that met the [CDC case definition](#) for MIS-C by the week their MIS-C symptoms first started. More information on MIS-C is available from CDC [here](#).

What respiratory viruses are being found in symptomatic patients tested at the State Laboratory of Public Health?



The State Laboratory of Public Health (SLPH) tests specimens submitted from symptomatic patients for influenza and COVID-19 using a multiplex assay. Depending on laboratory capacity, a small number of nasopharyngeal specimens may also be tested for other respiratory viruses if they are negative for both influenza and COVID-19. The graph shows the results from all tests for the respiratory viruses listed above and performed at SLPH on specimens from symptomatic patients. Tracking test results for patients at SLPH can help us to understand the distribution of COVID-19 and influenza as well as potential co-infections. Because testing at SLPH focuses on prioritized populations at increased risk for COVID-19 and all results in the graph came from specimens collected from symptomatic patients, the percentage of positive tests for COVID-19 is likely to be higher than the state average.

There were **2** specimens positive for COVID-19 and **0** specimens positive for influenza out of **6** specimens tested with the multiplex assay at the SLPH the week ending September 3, 2022.